

the two extreme are larger than the rest), and the marginal are about the same length as the submedian and separated from the lateral by one spinule. The spine of the basal joint of the caudal appendages is divided into two long and acuminate lobes, of which the inner is about one and a third times as long as the outer and bears the usual minute cusp on its outer side.

The dactylopodite of the raptorial limbs is armed with four teeth, including the terminal claw on its inner edge, and is notched near the base of its outer edge.

Colour in life deep pink.

Total length from tip of rostrum to tips of submedian spines of telson 61 millim.

A single male was obtained at Station 96, in 90 to 100 fathoms.

A single young female specimen measuring only 37 millim. had previously been taken off Cheduba, Arrakan coast, at about the same depth.

#### Grade ENTOMOSTRACA.

#### Order CIRRIPEDIA.

#### SCALPELLUM.

#### 52. *Scalpellum*, sp.

From Station 56, 240 to 220 fathoms, on a dead *Gorgonia* with a black polished stem.

#### 53. *Scalpellum*, sp.

From Station 96, 98 to 102 fathoms, a small cluster on a fragment of dead *Gorgonia*.

XXVIII.—*Bathynectes*, *Stimpson*, a British Genus of Crustacea *Brachyura*. By the Rev. Canon A. M. NORMAN, M.A., D.C.L., F.R.S., &c.

IN 1871 Stimpson established a genus, *Bathynectes*, to receive certain crabs nearly related to the genus *Portunus*, which had been dredged in 100–200 fathoms by Pourtalès in the Gulf-stream in the Straits of Florida. In 1877 Bovallius procured

a Portunid from the fishing-banks off the west of Norway, where it was living in 100-200 fathoms, for which he established the genus *Thranites*, which genus is undoubtedly synonymous with the *Bathynectes* of Stimpson. The species is also the same; but I am of opinion that the crustacean had long before been described by O. G. Costa in the 'Fauna del Regno di Napoli,' in which work a fine plate illustrates it. I will now proceed to describe the genus and its representatives.

### Family Portunidæ.

#### Subfamily PORTUNINÆ.

Genus BATHYNECTES, Stimpson, 1871,  
= *Thranites*, Bovallius, 1877.

Stimpson's characters are as follows:—

"Very near *Portunus*, but differing in its antero-lateral teeth, which are not like those of a saw, but are somewhat spiniform and separated by considerable intervals. The front also has no median tooth, and the hiatus of the orbit is widely open, not being filled by the basal joint of the external antennæ, which is narrow and firmly soldered anteriorly to the process of the front. The meros joint of the external maxillipeds is as broad as long, and does not project anteriorly, but fits accurately to the anterior edge of the buccal area. The ambulatory feet are very slender; those of the first pair much shorter than those of the second; second and third pairs very long, the third longest; fourth pair two thirds as long as the third." To these characters may be added that the ultimate joint of the fourth pair is flattened into a swimming-blade, as in *Portunus*, and is not furnished with any median rib. A transverse ridge crosses the carapace, and unites the bases of the greatly developed posterior lateral spines, which much exceed the preceding spines in size and are sharply acute.

In the adult of the typical species the frontal margin is furnished with four teeth, so that, as Stimpson says, there is no median tooth; but in the young these teeth are much less acute, and might be described as lobes, and the central pair are united into one process, which is emarginate distally, this emargination indicating the separation which afterwards takes place in this process into two entirely distinct teeth.

1. *Bathynectes superba* (O. G. Costa).

- Portunus superbus*, O. G. Costa, Fauna del Regno di Napoli, Addizioni a i Decapodi Brachyuri, p. 19, pl. vii. \*
1871. *Bathynectes longispina*, Stimpson, Prelim. Rep. Crust. Gulf-stream, Bull. Soc. Comp. Zool. vol. ii. p. 146 (♂).
1871. *Bathynectes brevispina*, id. ibid. p. 147 (♀).
1877. *Thranites velox*, Bovallius, Öfvers. af Kongl. Vet. Akad. Förhandl. 1876, no. 9, p. 59, pls. xiv., xv.
1879. *Bathynectes longispina*, A. Milne-Edwards, Crust. Rég. Mexicaine, p. 234, pl. xlii. fig. 1 (♂ junior).
1879. *Bathynectes brevispina*, id. ibid. p. 235 (♀ adult).
1881. *Thranites velox*, Bovallius, loc. cit. 1881, no. 2, p. 9, pl. ii.
1882. *Bathynectes longispina*, A. Milne-Edwards, Institut de France, Comptes rendus sommaire d'un explor. zool. faite dans l'Atlantique à bord du navire 'Le Travailleur,' p. 10.
1883. *Bathynectes longispina*, S. I. Smith, Proc. U. S. Nat. Mus. vol. vi. no. 2, p. 17.
1885. *Portunus superbus*, Carus, Prod. Faun. Medit. vol. i. p. 517.
1886. *Thranites velox*, G. O. Sars, Den Norske Nordhavs Exped. xv., Zool. Crust. ii. p. 1.
1890. *Bathynectes longispina*, G. C. Bourne, Journ. Marine Biol. Assoc. United Kingdom, vol. i. p. 314 (name only).

Frontal margin divided in the young into three lobes, the outer blunt, the median emarginate; in adult the median is divided into two distinctly separated processes, and all four at that age become pointed. First and second antero-lateral teeth less acute than the third and fourth; the fifth greatly developed, long, cylindrical, and acute, and (like the carapace) scabrous; this spine-like process is often three times as long as the fourth tooth. The chelipedes have the meros furnished with two teeth on the inner margin at a little more than half of its length, one of these teeth being situated on the upper and the other on the lower edge: carpus distally produced on the inner side into a large and very acute falcate process, which itself is armed with three acute teeth; on the back of the carpus are two well-developed teeth and many smaller tuberculiform processes: hand with six carinæ, the first or inner and second crowned with tubercles, and the first also terminating in a large acute tooth; third not elevated, formed by a series of small tubercles; fourth and fifth are ribs, which are not usually tuberculated; sixth faintly marked, passing down the middle of the inferior surface and running out to the end of the thumb. The carapace is sub-hexagonal and its surface is granulated; a well-marked ridge

\* Unfortunately there is no means of determining the dates of publication of the parts of the 'Fauna del Regno di Napoli;' but the publication at any rate precedes that of Stimpson by fifteen or twenty years.

runs across the middle, uniting the bases of the posterior lateral spines.

It is possible that *Portunus superbus* is distinct from *Bathynectes longispina*. My supposition is that it is a very large male. It in all points appears to agree with *B. longispina*, except the frontal margin, which is furnished with four well-developed acute spines, while the inner orbital spines are so much developed that they are represented in the plate as large as these spines. But Bovallius has shown that great changes take place in these frontal spines according to the size of the individual; and on pl. ii. figs. 1-4 he represents four stages of growth, showing that the older the example is the more distinct and the more acute these spines become.

*British Habitat.* A specimen was submitted to me for identification in 1889 by Mr. G. C. Bourne which had been trawled by him in H.M.S. 'Research' in 400 fathoms off the south-west of Ireland.

*Distribution.* A single male was dredged by the 'Porcupine' Expedition of 1869, Stat. 65, which is some 45 miles north-west of Shetland, in lat.  $61^{\circ} 10' N.$ , long.  $2^{\circ} 21' W.$ , in 345 fathoms. This station is close on the boundary-line of the British area\*.

The example of *Portunus superbus* was procured by Costa in the Mediterranean near Naples. The specimens described by Stimpson were from Pourtalès's Gulf-stream dredgings, and were obtained off Sand Key, West Key, American Shoal, and the Marquesas Keys, in 100-150 fathoms. More recently it has been taken by the United States Fish Commission off Martha's Vineyard and Delaware Bay, N.E. America, in 86-225 fath. I have had the opportunity of comparing one of these specimens (the male, taken at Stat. 1097, off Martha's Vineyard, 158 fath.), for which I am indebted to the U. S. National Museum, with the 'Porcupine' specimen, with which it in every respect agrees. Four specimens have been obtained off the coast of Norway to the north-west of Bergen, which came into the hands of Dr. Bovallius; and a fifth was taken near the same place by the Norwegian North-Atlantic Expedition, as recorded by Prof. G. O. Sars. More recently Prof. A. Milne-Edwards has noticed its occurrence off Cape Ortegal, Spain, in 900 metres, where it was dredged by 'Le Travailleur.'

*Bathynectes superba* is thus shown to have a range apparently coextensive with the North Atlantic.

\* See note on this station, Ann. & Mag. Nat. Hist. ser. 6, vol. v. p. 456.

2. *Bathynectes longipes* (Risso).

1816. *Portunus longipes*, Risso, Crust. de Nice, p. 30, pl. i. fig. 5.  
 1828. *Portunus longipes*, Roux, Crust. de la Médit. pl. iv. figs. 1, 2.  
 1829. *Portunus infractus*, Otto, Nov. Act. Phys.-Med. Acad. C. L.-C. Nat. Cur. vol. xiv. p. 331, pl. xx. fig. 1.  
 1851. *Portunus Dalyelli*, Spence Bate, Ann. & Mag. Nat. Hist. vol. vii. p. 320, pl. vi. fig. 9.  
 1853. *Portunus longipes*, Bell, Brit. Stalk-eyed Crust. p. 361.  
 1855. *Bathynectes longipes*, Carus, Prod. Faunæ Medit. p. 518.

Frontal margin slightly four-lobed or merely waved, waves four (representing the usual lobes), outer lobes or waves the wider. First four antero-lateral teeth almost as in *B. superba*, fifth not more than half as long again as the fourth. Transverse ridge of carapace as in the typical species. Chelipeds having the meros unarmed; carpus simply scabrous and only distally produced on the inner margin into a strongly developed triangular process, terminating acutely, but this process unarmed with lateral teeth; hand having one distal tooth at the extremity of the inner margin, but otherwise unarmed.

*British Localities.* Polperro, Cornwall; and Falmouth (*Mus. Norm.*); Oxwich Bay, near Swansea (*Bate*); Banff (? *T. Edward*, included in list of Crustacea at the end of his 'Life'; but that list has many errors).

*Distribution.* Naples, Zool. Stat. (*Mus. Norm.*), Nice (*Targioni-Tozzetti*), Genoa (*Verany*), Sicily (*Vienna Museum*), Adriatic (*Grube, Heller, &c.*), Black Sea (*Rathke*).

XXIX.—*Lepton squamosum* (*Montagu*), a *Commensal*. By the Rev. Canon A. M. NORMAN, M.A., D.C.L., F.R.S., &c.

*LEPTON SQUAMOSUM* has always been regarded as a rare shell. Although single valves are frequently dredged on various parts of our coasts few cabinets can boast of a series of perfect specimens.

In 1858 I procured a fine series of perfect though dead specimens among heaps of Nullipore and sand which had been dredged for manure and were lying on the shore at Glengariff, in Bantry Bay. I had never, however, seen it alive until I went to Salcombe, Devonshire, in 1875, for the special purpose of looking for certain Invertebrata which Montagu had procured there. There I found *Lepton squa-*